

NEW DESCRIPTIONS

NEW SPECIES OF *SILESIS* CANDEZE (COLEOPTERA, ELATERIDAE: ADRASTINAE) FROM INDIA¹

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(With four text-figures)

Key words: New species, *Silesis* Candeze, Elateridae, India.

Four new species of *Silesis* Candeze have been described and illustrated: *S. vatsi*, *S. longicarinatus*, *S. brevicarinatus* and *S. ecarinatus*. While running them through Platia and Schimmel's (1991) key, these species come close to *S. lebischi*. The characters distinguishing *S. vatsi* from its allied species are given in the text. In the four new species, antennal segment 2 is shorter than 3 (equal in *S. lebischi*), which distinguishes them from *S. lebischi*.

INTRODUCTION

Candeze (1863) erected genus *Silesis* which now includes 52 species from India. The Indian fauna of this genus have been studied by Fleutiaux (1940, 1947), Ohira (1969), Ohira and Becker (1971, 1974), Platia and Schimmel (1991, 1993) and Vats and Chauhan (1993). We are adding 4 new species from the Indian subcontinent. The features separating them from their closely related species are discussed. The genus *Silesis* Candeze is characterised by: Supra-antennary crest oblique, not united in middle; frons truncate in front; tarsi with 4th segment lamellate; aedeagus longer than parameres; parameres simple, with or without subapical processes. Instead of giving a revised key to the species, a new section is inserted in Platia and Schimmel's (1991) key by replacing the couplet 61, as follows:

61. Antennal segments 2 & 3 equal 61a
— Antennal segments 2 & 3 not equal 61b
61a. Pronotum broader than long, frons flat, with hexagonal punctation *S. vatsi* sp. nov.
— Pronotum longer than broad, frons convex, with umbilicate punctation
..... *S. lebischi* Platia & Schimmel

- 61b. Antennal segment 2 shorter than 3 61c
— Antennal segment 2 longer than 3 62
61c. Prosternal spine margined between mesocoxae 61d
— Prosternal spine margined entirely
..... *S. ecarinatus* sp. nov.
61d. Carina of posterior pronotal angles reaching middle of pronotum; metabasitarsus longer than following 2 joints combined; elytra 3.2x prothorax length; antennal segments 2-4 as 3:4:6 *S. longicarinatus* sp. nov.
— Carina of posterior pronotal angles not reaching middle of pronotum; metabasitarsus equal to following 2 joints combined; elytra 2.8x prothorax length; antennal segments 2-4 as 1:2:3 *S. brevicarinatus* sp. nov.

The type material of the new species will be deposited at Pusa National Collections, Indian Agricultural Research Institute, New Delhi, after completion of the project.

Silesis vatsi sp. nov
(Fig. 1)

Colour: Body black. Antennae and legs ferruginous.

Measurements: Body: length 5 mm, width 1.35 mm; head: length 0.62 mm, width 0.75 mm; antenna 2 mm, 2nd segment 0.1 mm, 3rd segment 0.1 mm, 4th segment 0.2 mm, last

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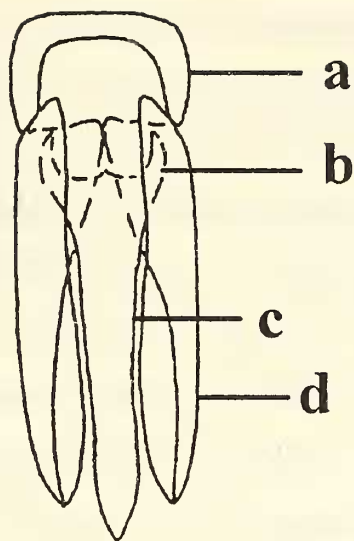


Fig. 1: Male genitalia of *Silesis vatsi*
a. Phallobase; b. Furca; c. Aedeagus; d. Paramere

segment 0.25 mm; thorax: length 1.15 mm, width 1.35 mm; elytra 3 mm.

Structure: Body width more than 0.25 times its length. Head flat, broader than long as 6:5, antenna extending slightly beyond posterior angle of pronotum, segment 3 equal to 2 but shorter than 4 as 1:2. Mandible dentate. Pronotum convex, broader than long as 9:8, lateral sides parallel, posterior margin furrowed; posterior angle pointed, carinate, carina reaching middle of pronotum; prosternal spine pointed, margin entire, gradually declined from its main axis at 10°, gradually narrowing from base; lateral carina entire. Metasternum ecarinate, truncate between mesocoxae. Scutellum flat, longer than broad as 6:4, anterior margin truncate with central protuberance, posterior margin subacute. Elytra convex, 2.6 times prothorax length, each subacute at extremity; striae distinct. Last sternite flat. Metabasitarsus longer than following 2 joints combined as 3:2.

Sculpture: Head with simple, dense, moderate, hexagonal punctation; pronotum punctate like head; propleurae with simple, sparse, elongated punctation; prosternum with simple, moderate, rounded punctation; elytral striae with deep, distinct, dense, rounded punctation; interstriae with simple, dense, rounded punctation.

Pubescence: Body covered with simple, dense, slanting yellowish brown pubescence.

Male genitalia: (Fig. 1). Phallobase with straight anterior margin; parameres without subapical processes; aedeagus longer than parameres, conical at apex; furcae not reaching anterior margin of parameres.

Material examined: *Holotype:* Male, Sikkim, Namchi, 1650 m, 16.v.1993, under light, Coll. Punam. *Paratype:* 1 male with same data as holotype.

Distribution: INDIA: Sikkim.

Diagnostic combinations: This species can be separated from its allied species *S. lebischi* as: pronotum broader than long (longer than broad in *lebischi*), frons flat with hexagonal punctation (convex with umbilicate punctation in *lebischi*).

Etymology: The species is named in honour of Prof. L.K. Vats, Kurukshetra University, Kurukshetra.

Silesis longicarinatus sp. nov.
(Fig. 2)

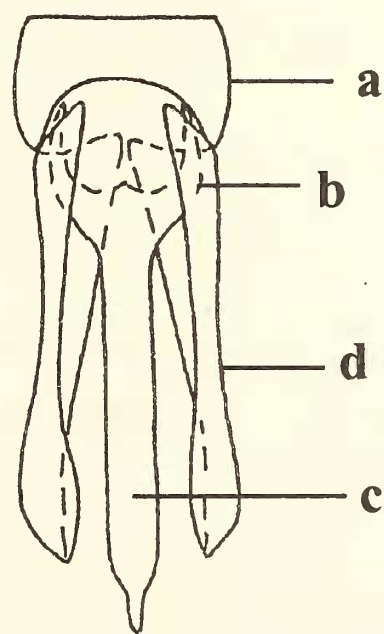


Fig. 2: Male genitalia of *S. longicarinatus*
a. Phallobase; b. Furca; c. Aedeagus; d. Paramere

Colour: Body black. Antenna and legs ferruginous.

Measurements: Body: length 6 mm, width

1.25 mm; head: length 0.5 mm, width 0.75 mm; antenna 2.5 mm, 2nd segment 0.15 mm, 3rd segment 0.2 mm, 4th segment 0.3 mm, last segment 0.35 mm; thorax: length 1.25 mm, width 1.25 mm; elytra 4 mm.

Structure: Body width less than 0.25 times its length. Head flat, broader than long as 3:2; antenna extending beyond posterior angle of pronotum, segment 3 longer than 2 as 4:3 but shorter than 4 as 2:3. Mandible dentate. Pronotum convex, as long as broad, lateral sides parallel, posterior margin furrowed, posterior angle pointed, carinate, carina reaching middle of pronotum; prosternal spine pointed, margined between mesocoxae, gradually declined from its main axis at 30°, abruptly narrowing from base; lateral carina entire. Metasternum ecarinate, truncate between mesocoxae. Scutellum flat, longer than broad as 4:3, anterior margin truncate with median protuberance, posterior margin arcuate. Elytra convex, 3.2 times prothorax length, each subacute at extremity; striae distinct. Last sternite flat. Metabasitarsus longer than following 2 joints combined as 4:3.

Sculpture: Head with simple, dense, small, hexagonal punctation; pronotum punctate like head; propleurae with simple, sparse, rounded punctation; prosternum punctate like propleurae; elytral striae with deep, distinct, oval punctation; interstriae with simple, sparse, fine, inconspicuous punctation.

Pubescence: Body covered with simple, dense, slanting yellowish brown pubescence.

Male genitalia: (Fig. 2). Phallobase broad with straight anterior margin; parameres without subapical processes; aedeagus longer than parameres, tubular, posteriorly tapering to nipple-like apex; furcae extending beyond anterior margin of parameres.

Material examined: *Holotype:* Male, West Bengal, Mirik, 1700 m, 11.v.1993, on forest vegetation, Coll. V. Vasu. *Paratype:* 1 female, with same data as holotype.

Distribution: INDIA: West Bengal.

Diagnostic combinations: On the basis of the following significant characters, *S. longicarinatus* can be separated from its allied species *S. brevicarinatus*; carina on posterior angles of prothorax long, reaching middle of pronotum (short, not reaching middle in *brevicarinatus*) metabasitarsus longer than following joints combined (equal in *brevicarinatus*) elytra 3.2 x prothorax length (2.8 times in *brevicarinatus*) antennal segments 2-4 as 3:4:6 (as 1:2:3 in *brevicarinatus*).

Etymology: The species is named after long carina on posterior angles of the prothorax.

Silesis brevicarinatus sp. nov.
(Fig. 3)

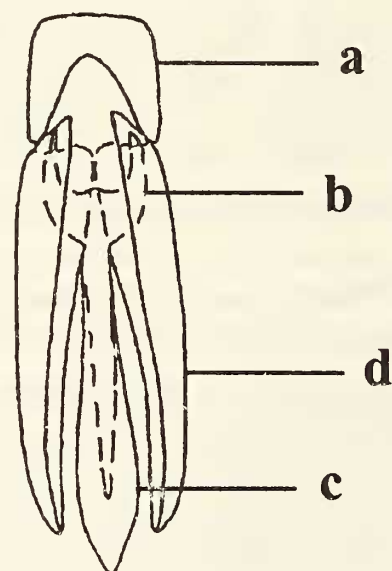


Fig. 3: Male genitalia of *S. brevicarinatus*
a. Phallobase; b. Furca; c. Aedeagus; d. Paramere

Colour: Body black. Antenna and legs ferruginous.

Measurements: Body: length 5.5 mm, width 1.25 mm; head: length 0.5 mm, width 0.75 mm; antenna 2.25 mm, 2nd segment 0.1 mm, 3rd segment 0.2 mm, 4th segment 0.3 mm, last segment 0.3 mm; thorax: length 1.25 mm, width 1.25 mm; elytra 3.5 mm.

Structure: Body width less than 0.25 times its length. Head flat, broader than long as 3:2; antenna extending beyond posterior angle of pronotum, segment 3 longer than 2 as 2:1 but

shorter than 4 as 2:3. Mandible dentate. Pronotum convex, as long as broad, lateral sides parallel, posterior margin furrowed; posterior angle rounded, carinate, carina short, not reaching middle of pronotum; prosternal spine rounded, margined between mesocoxae, abruptly declining from its main axis at 20° , abruptly narrowing from base; lateral carina entire. Metasternum ecarinate, truncate between mesocoxae. Scutellum flat, ecarinate, longer than broad as 6:5, anterior margin truncate, with median protuberance, posterior margin arcuately pointed. Elytra convex, 2.8 times prothorax length, each subacute at extremity; striae distinct. Last sternite flat. Metabasitarsus equal to following 2 joints combined.

Sculpture: Head with simple, dense, moderate, hexagonal punctation; pronotum punctate like head; propleurae with simple, sparse, elongated punctation; prosternum with simple, sparse, fine punctation; elytral striae with deep, distinct, rounded punctation; interstriae with simple, dense, elongated punctation.

Pubescence: Body covered with simple, dense, slanting, yellowish brown pubescence.

Male genitalia: (Fig. 3). Phallobase with straight anterior margin; parameres without subapical processes; aedeagus longer than parameres, narrow at base, posteriorly forming conical apex; furcae not reaching anterior margin of parameres.

Material examined: *Holotype:* Male, Sikkim, Gangtok, 1500 m, 13.v.1993, on the leaf of wild *Rosa* sp., Coll. Punam. *Paratype:* 1 female with same data as holotype.

Distribution: INDIA: Sikkim.

Diagnostic combinations: The characters distinguishing *S. brevicarinatus* from its allied species *S. longicarinatus* are discussed under the latter.

Etymology: The species name pertains to the short carina on posterior angles of the prothorax.

Silesis ecarinatus sp. nov.
(Fig. 4)

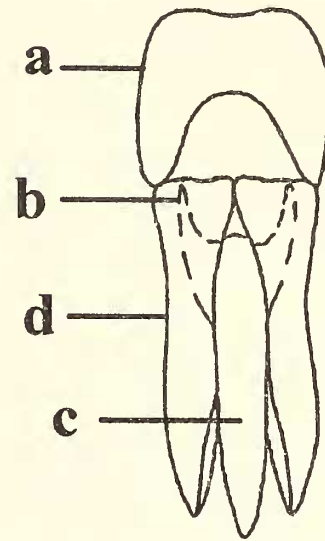


Fig. 4: Male genitalia of *S. ecarinatus*
a. Phallobase; b. Furca; c. Aedeagus; d. Paramere

Colour: Body fuscous except blackish head and ferruginous antenna and legs.

Measurements: Body: length 5 mm, width 1.25 mm; head: length 0.5 mm, width 0.65 mm; antenna 2.12 mm, 2nd segment 0.1 mm, 3rd segment 0.2 mm, 4th segment 0.2 mm, last segment 0.25 mm; thorax: length 1 mm, width 1.25 mm; elytra 3 mm.

Structure: Body width equal to 0.25 times its length. Head convex, broader than long as 5:4; antenna not reaching posterior angle of pronotum, segment 3 longer than 2 as 2:1 but equal to 4. Mandible dentate. Pronotum strongly convex, posterior margin furrowed; posterior angle pointed, carinate, carina not reaching middle of pronotum; prosternal spine pointed, margin entire, gradually declining from its main axis at 15° , abruptly narrowing from base; lateral carina entire. Metasternum ecarinate, truncate between mesocoxae. Scutellum flat, ecarinate, longer than broad as 5:4, anterior margin straight with median protuberance, posterior margin pointed. Elytra convex, 3 times the length of prothorax, each subacute at extremity; striae distinct. Last sternite flat. Metabasitarsus equal to following 2 joints combined.

Sculpture: Head with simple, dense, small, rounded punctation, pronotum punctate like head; propleurae with simple, sparse, rounded punctation; prosternum punctate like propleurae; elytral striae with deep, distinct, oval punctation; interstriae with dense, fine punctation.

Pubescence: Body covered with simple, dense, slanting, yellowish brown pubescence.

Male genitalia: (Fig. 4). Phallobase with slightly concave anterior margin; parameres without subapical processes; aedeagus slightly longer than parameres, tubular, rounded at apex; furcae not reaching anterior margin of parameres.

Material examined: *Holotype:* Male, Arunachal Pradesh, Dirang, 1500 m, 11.v.1992, under light, Coll. V. Vasu. *Paratypes:* 1 male, 1 female with same data as holotype.

Distribution: INDIA: Arunachal Pradesh.

Diagnostic combinations: *S. ecarinatus* is unique in having antennal segment 2 shorter than 3; prosternal spine margin entire, head broader than long, antenna not reaching posterior angles of prothorax; scutellum ecarinate and metabasitarsus equal to following joints combined.

Etymology: The species name is derived from its ecarinate scutellum.

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